

ANIMAL MODEL

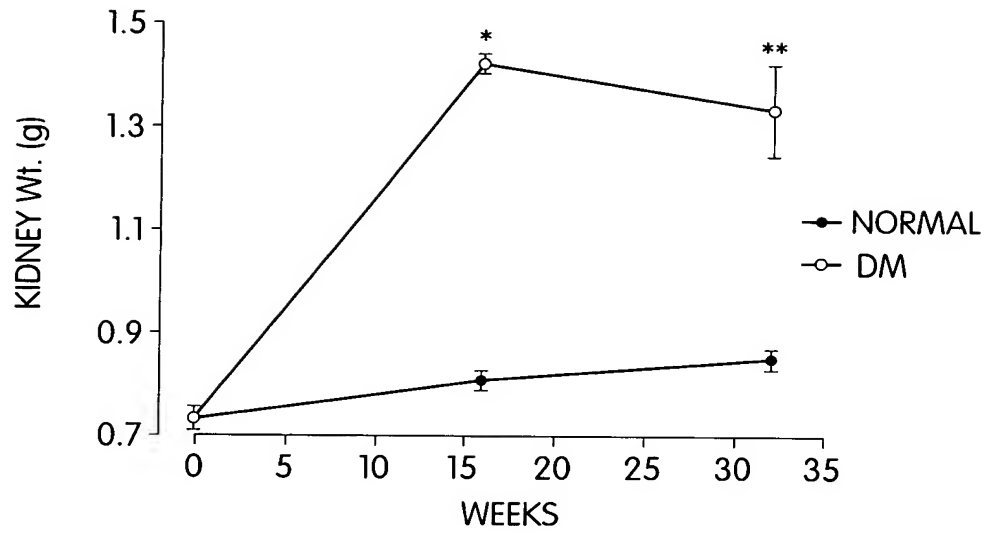


Fig. 1A

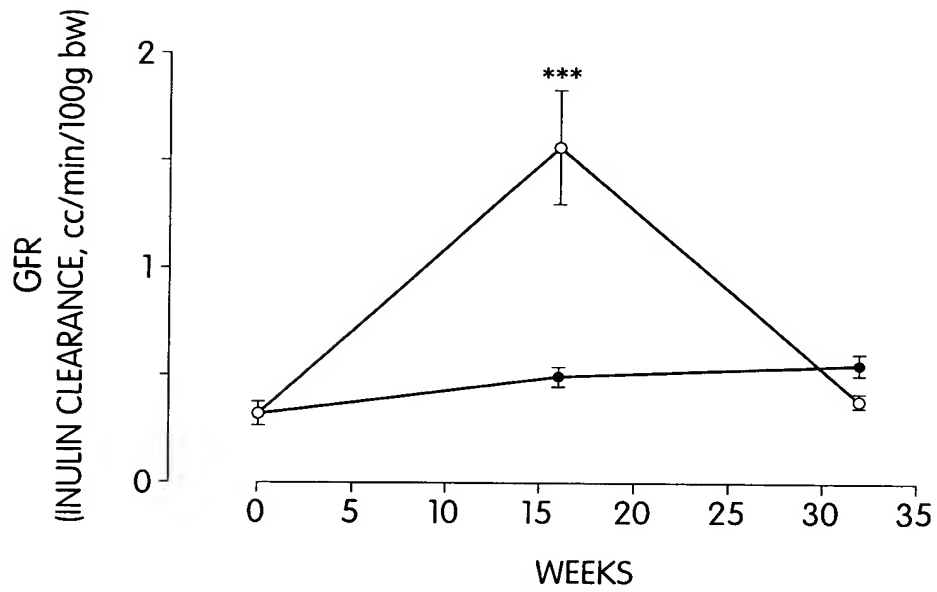


Fig. 1B

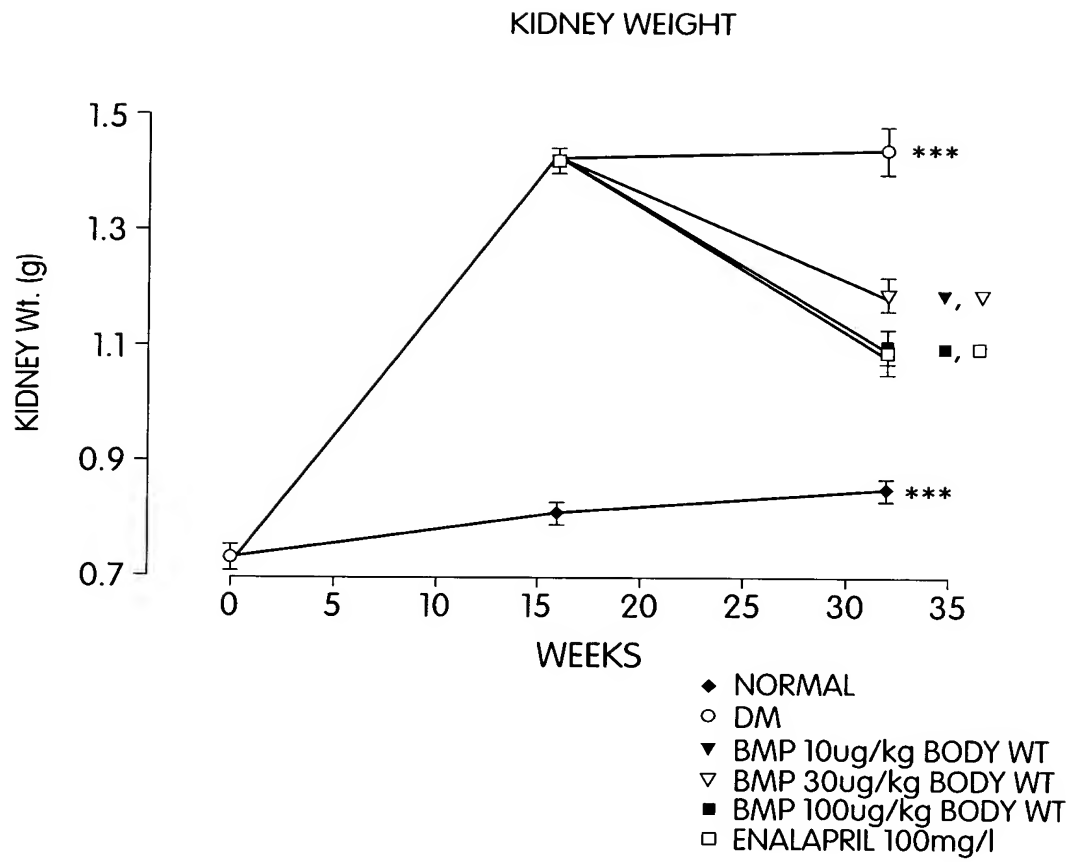


Fig. 2

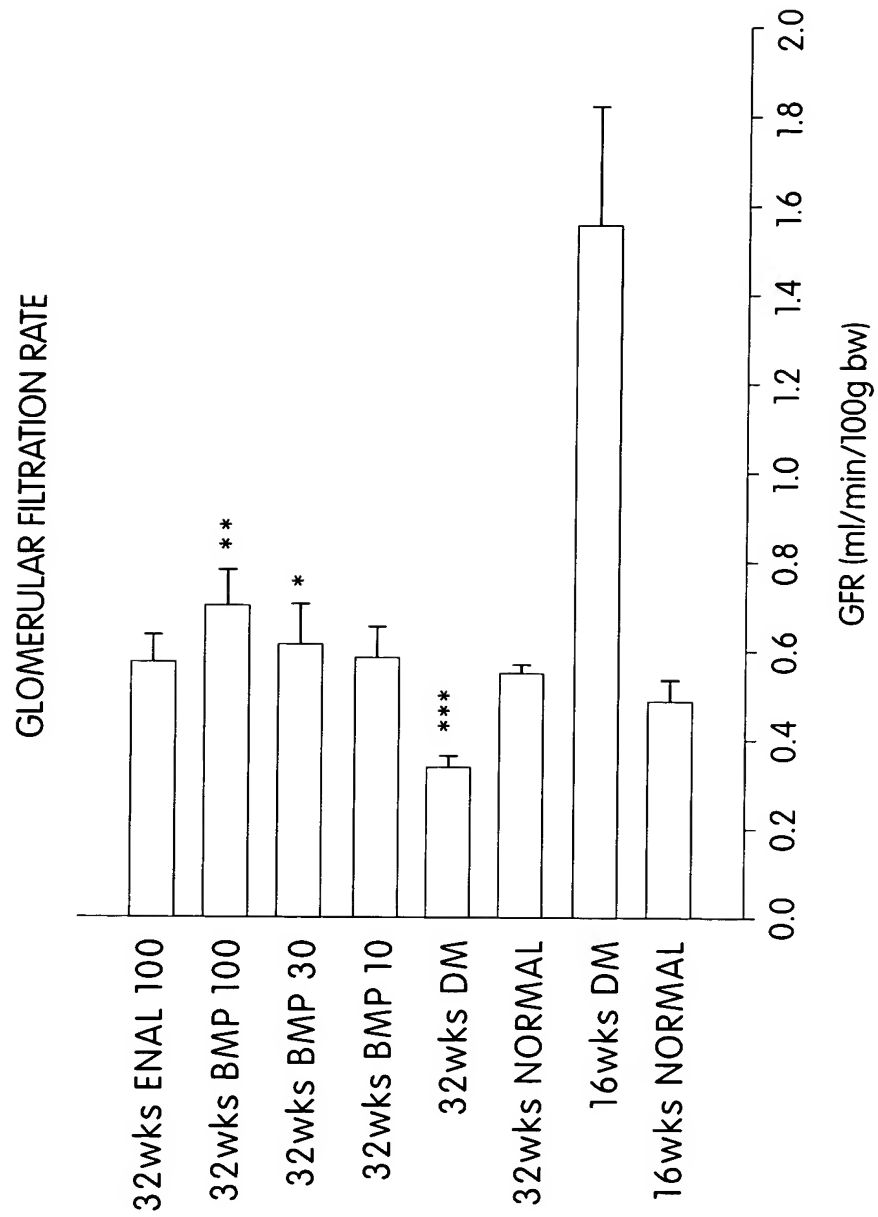


Fig. 3

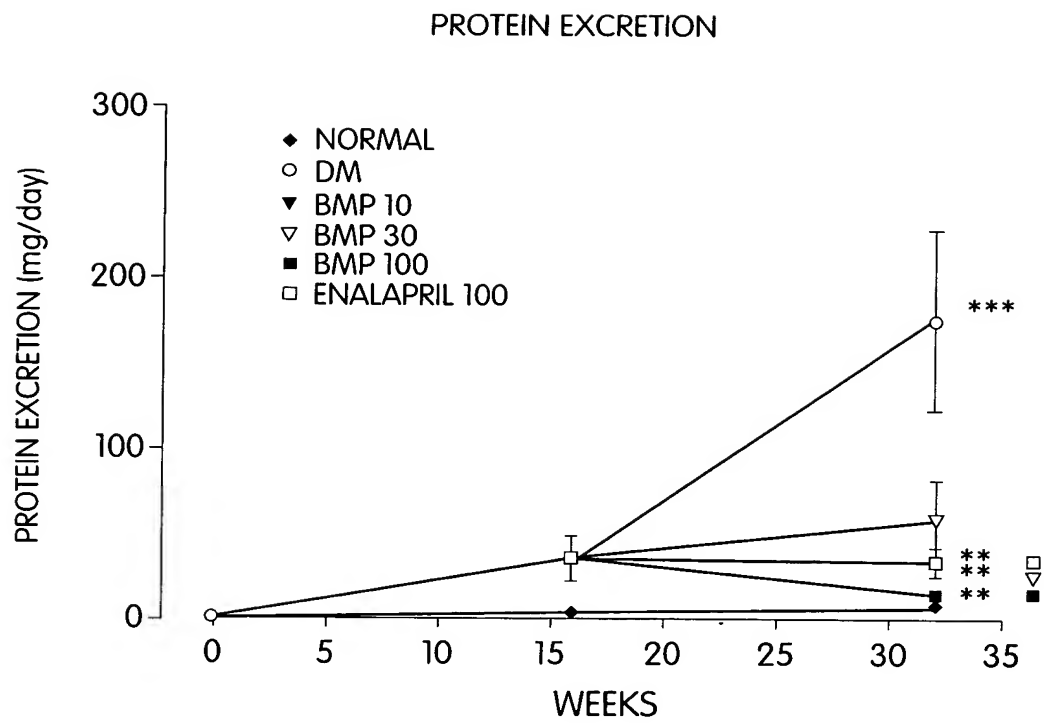


Fig. 4



Fig. 5A



Fig. 5B

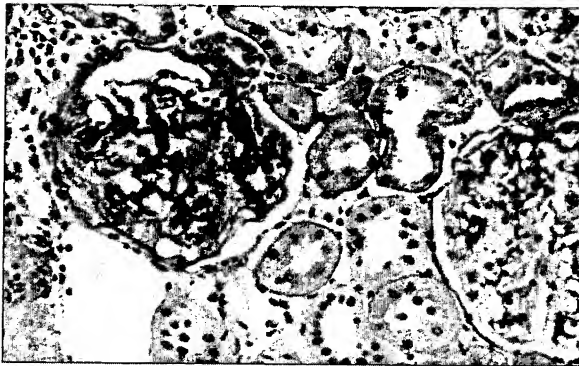


Fig. 5C

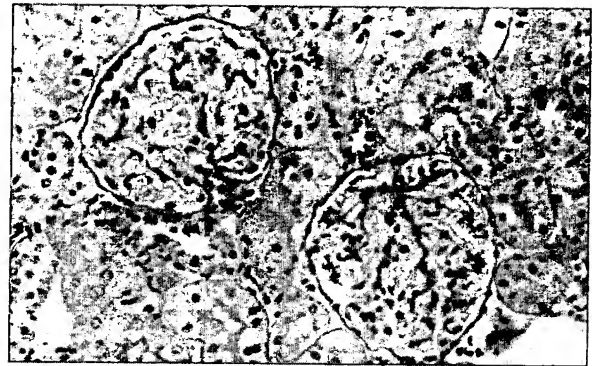


Fig. 5D

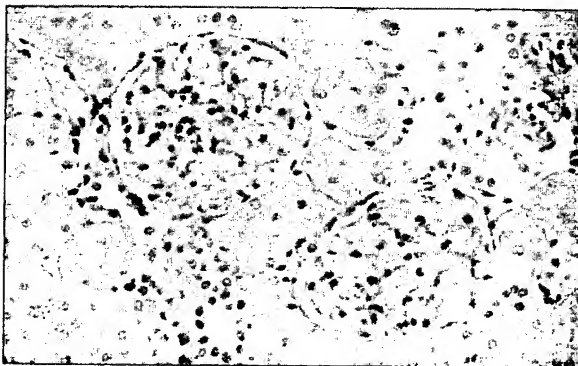


Fig. 5E

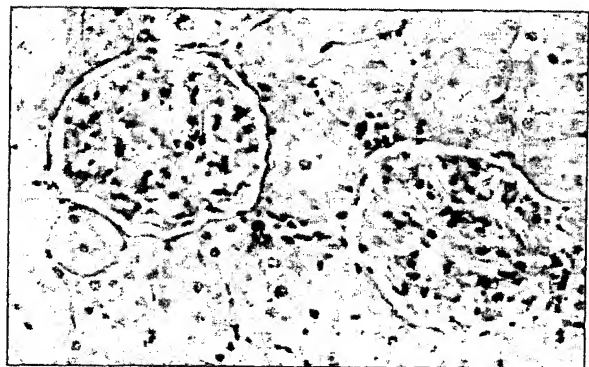


Fig. 5F

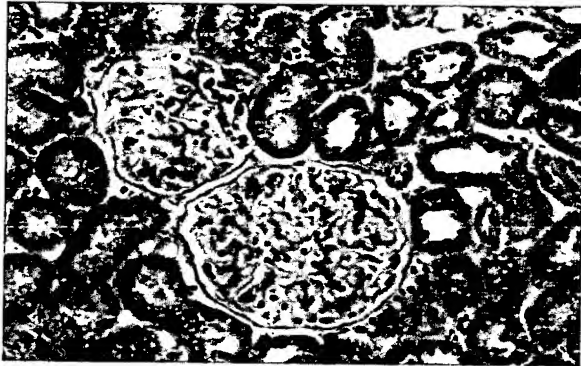


Fig. 6A

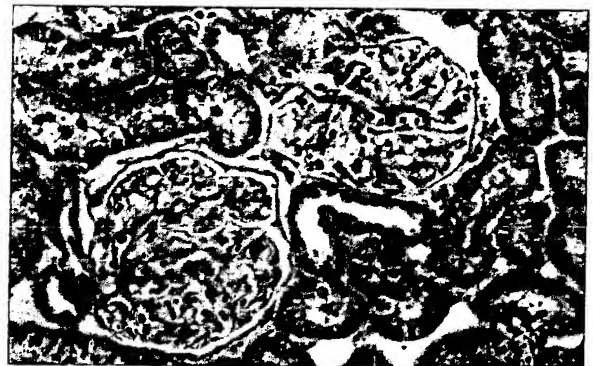


Fig. 6B

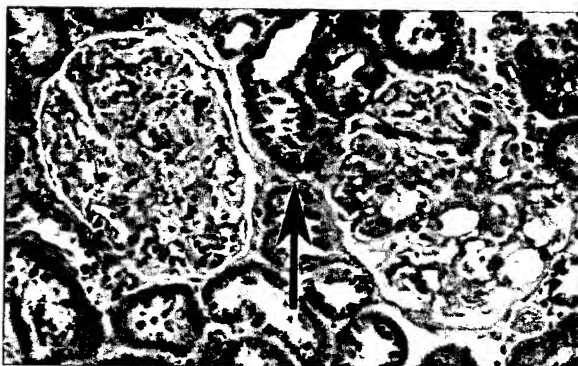


Fig. 6C



Fig. 6D

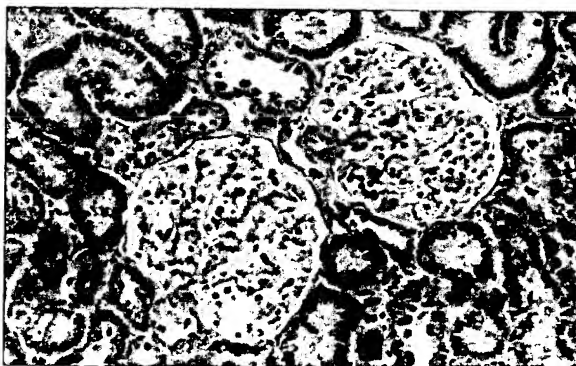


Fig. 6E

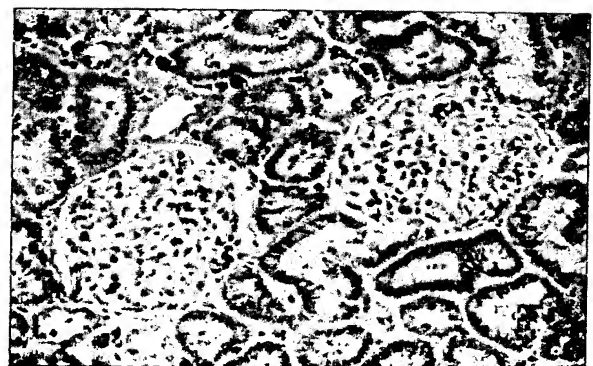


Fig. 6F

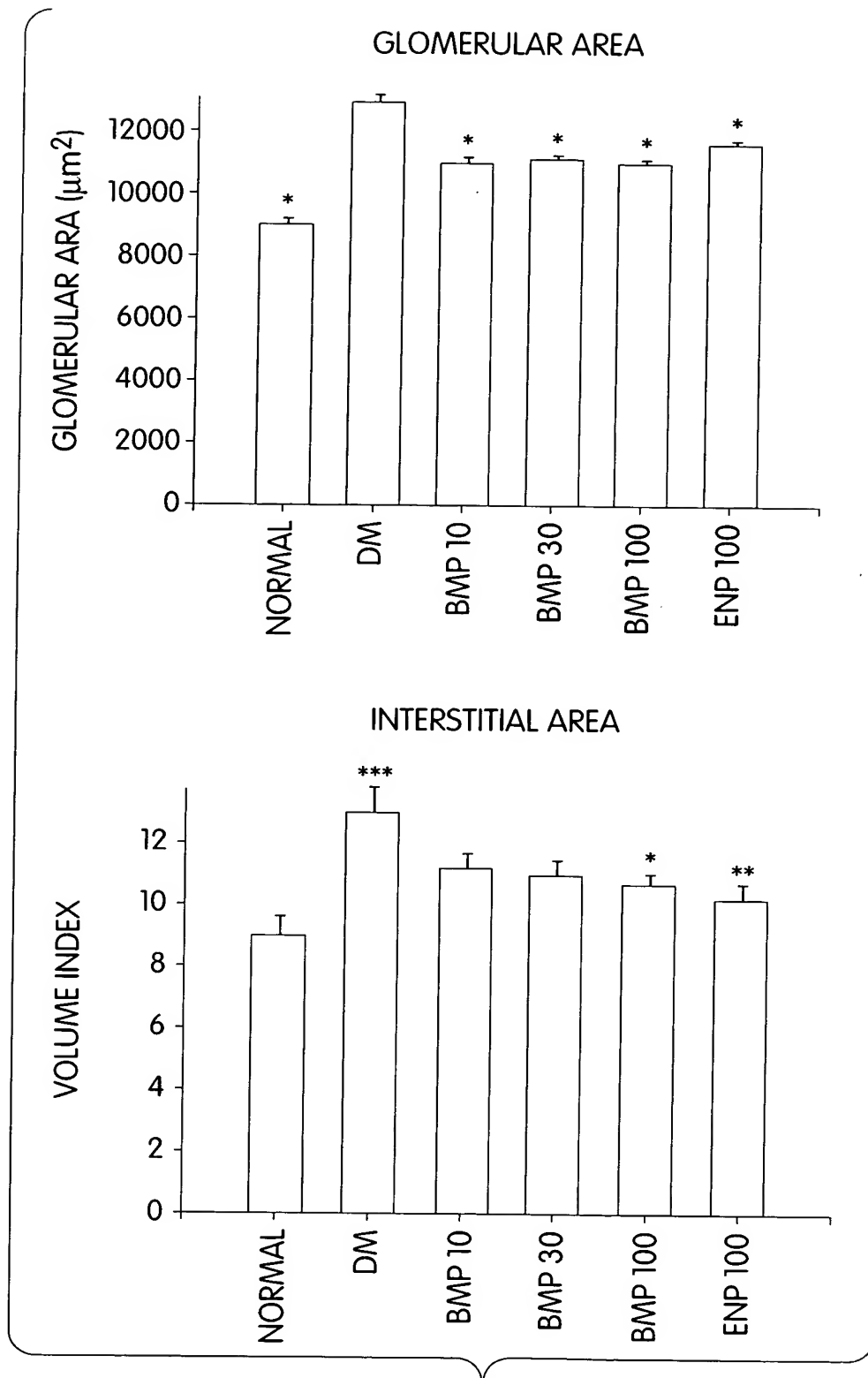


Fig. 7

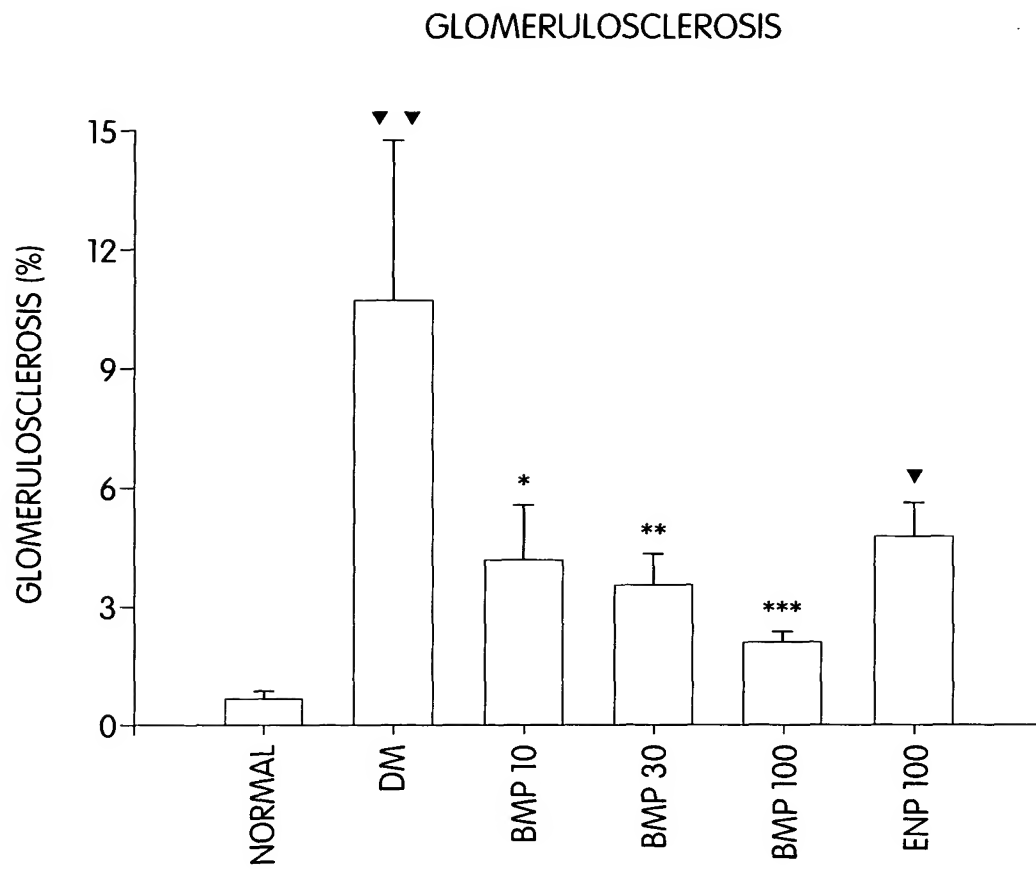


Fig. 8

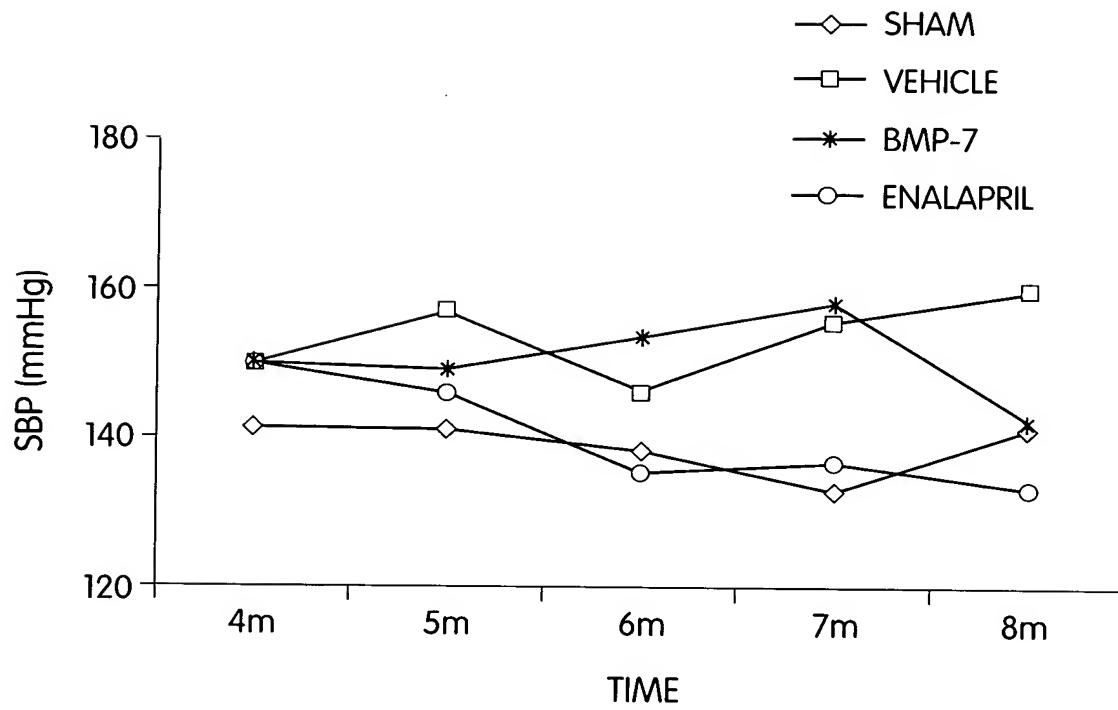
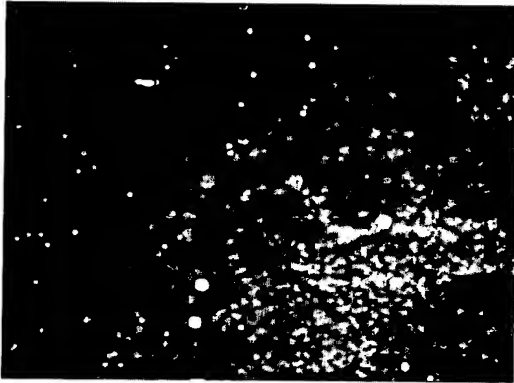


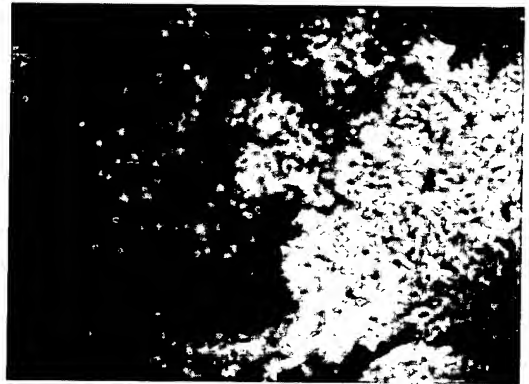
Fig. 9

BMP-7 EXPRESSION

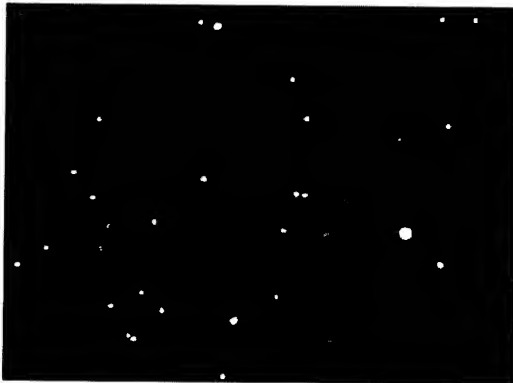
NORMAL 32 WEEKS



BMP-7 TREATED DM



DM 32 WEEKS



ENALAPRIL TREATED DM

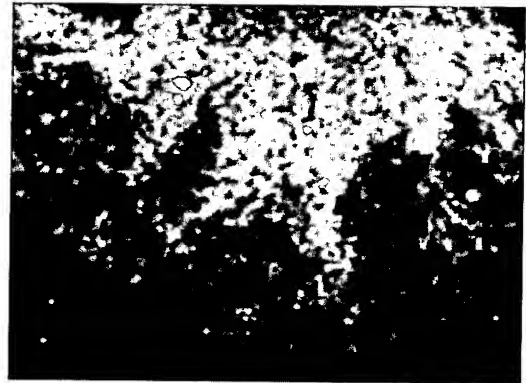


Fig. 10A

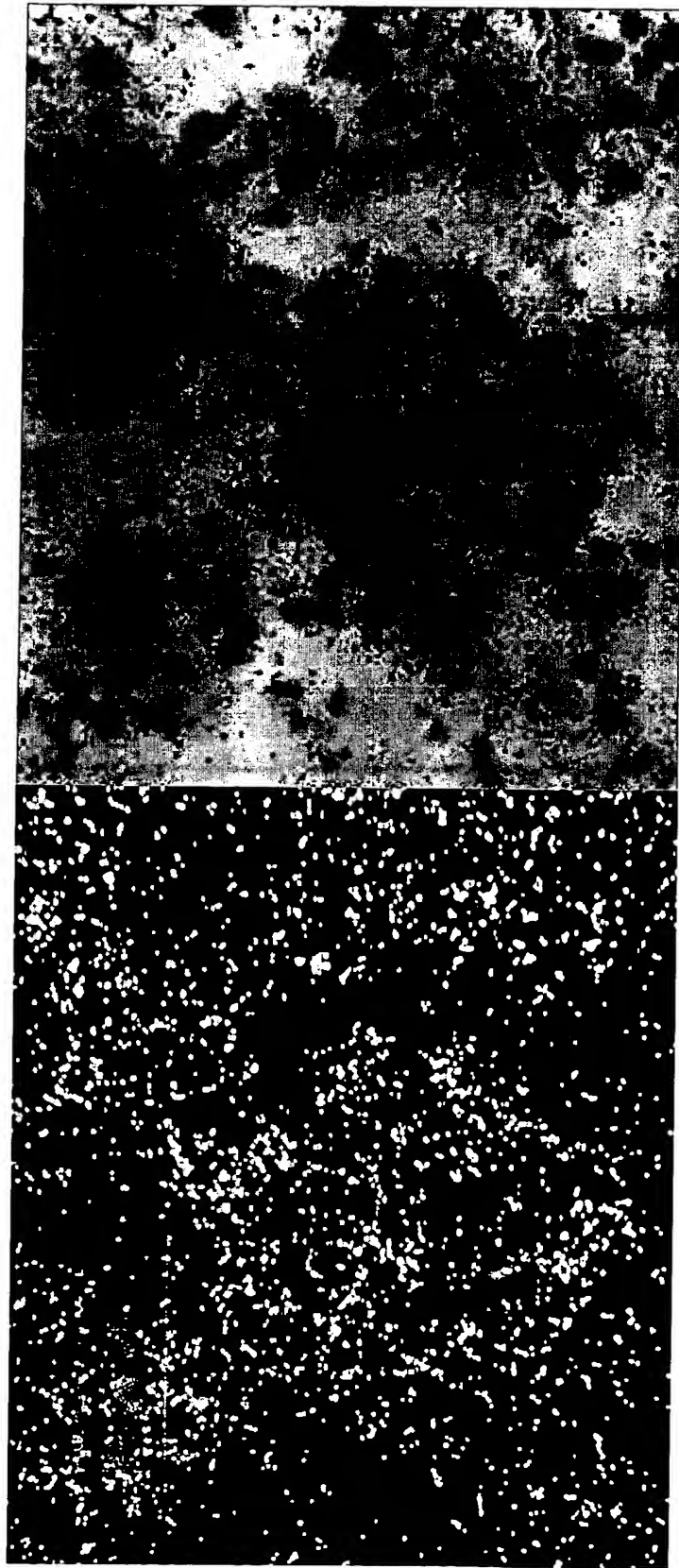


Fig. 10B

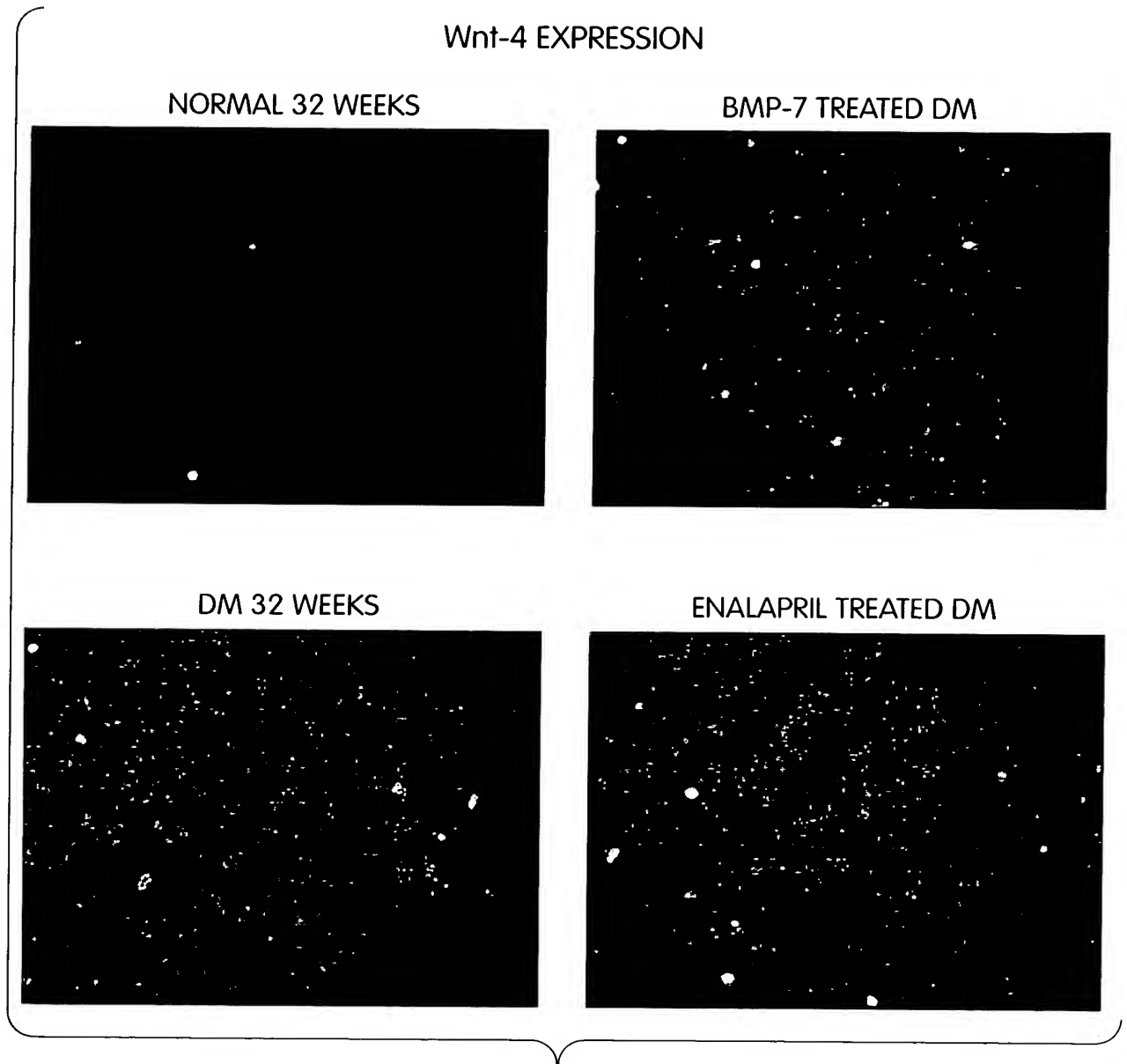


Fig. 11

FIVE SIXTHS NEPHRECTOMY
CHRONIC RENAL FAILURE INJURY MODEL

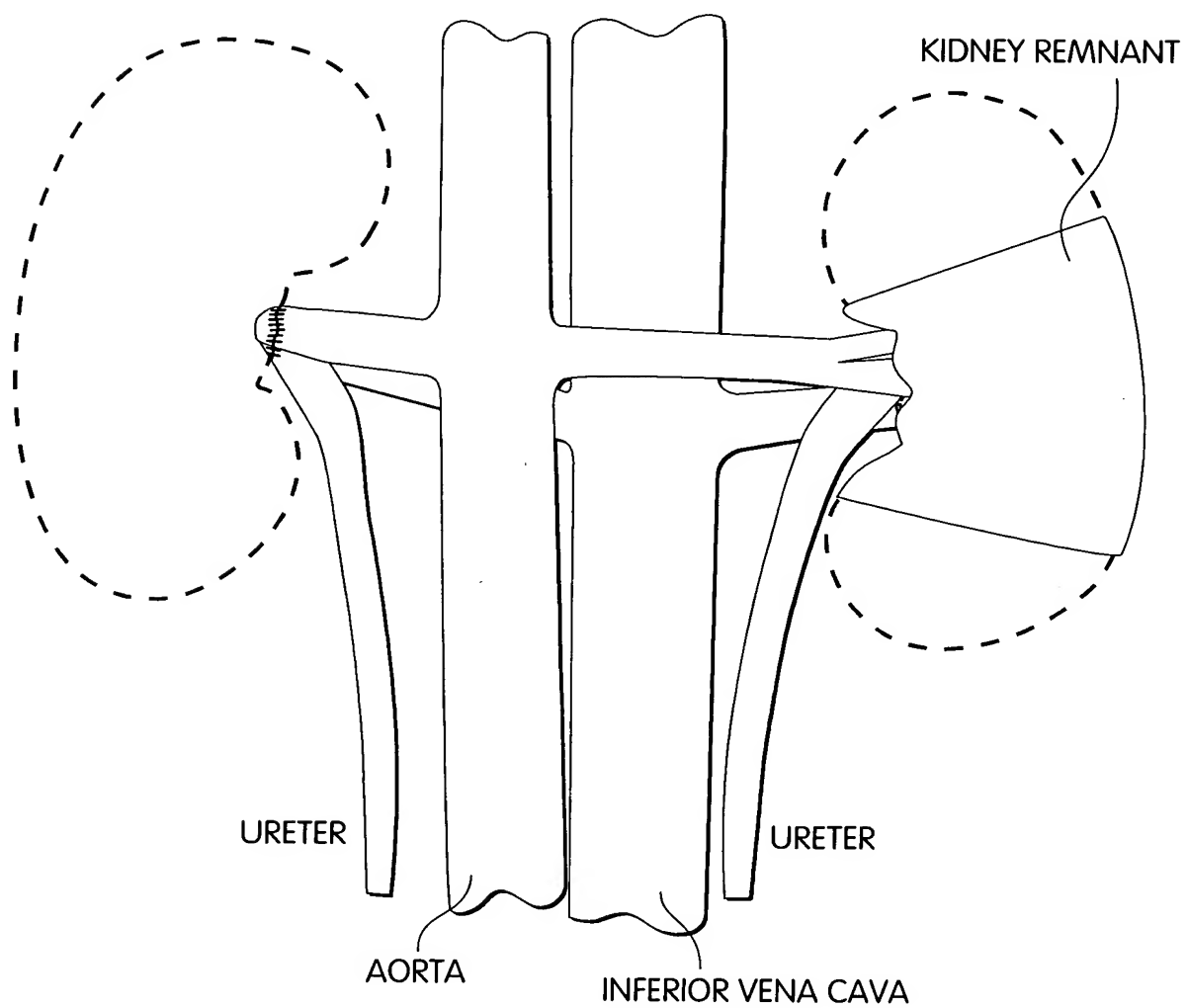


Fig. 12

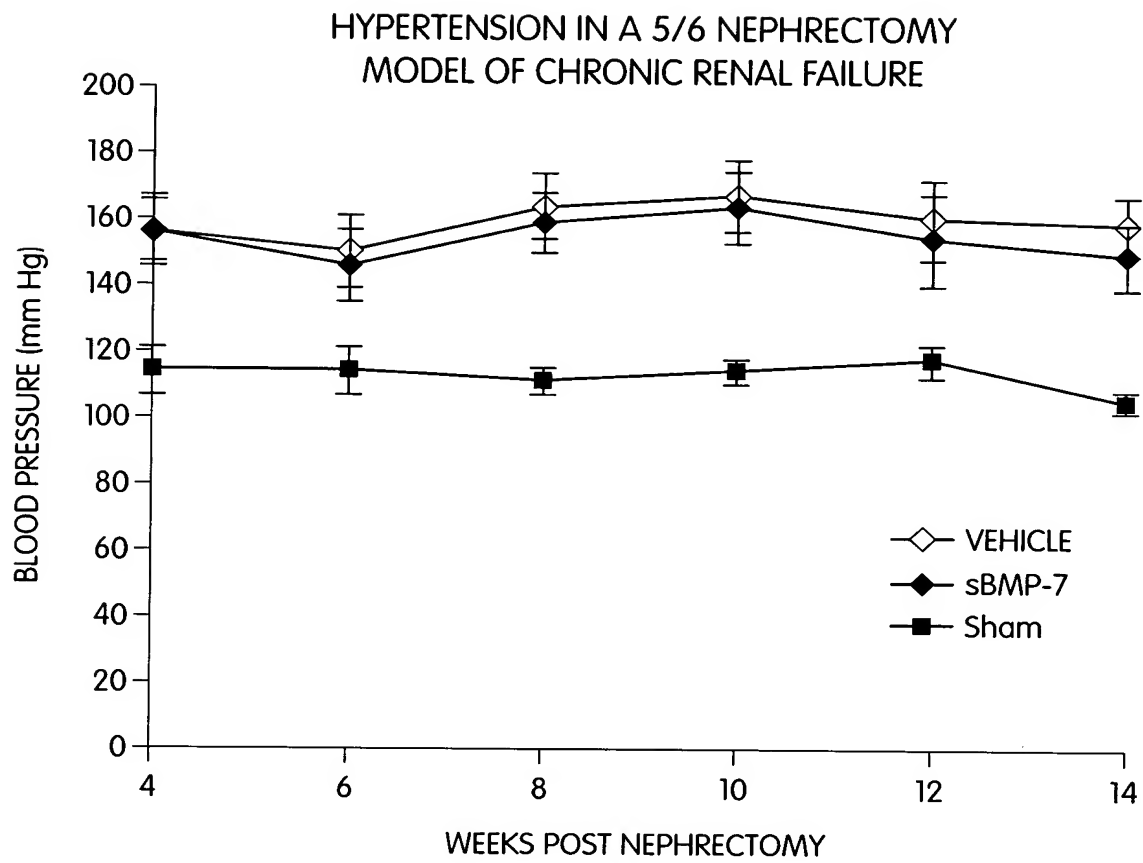
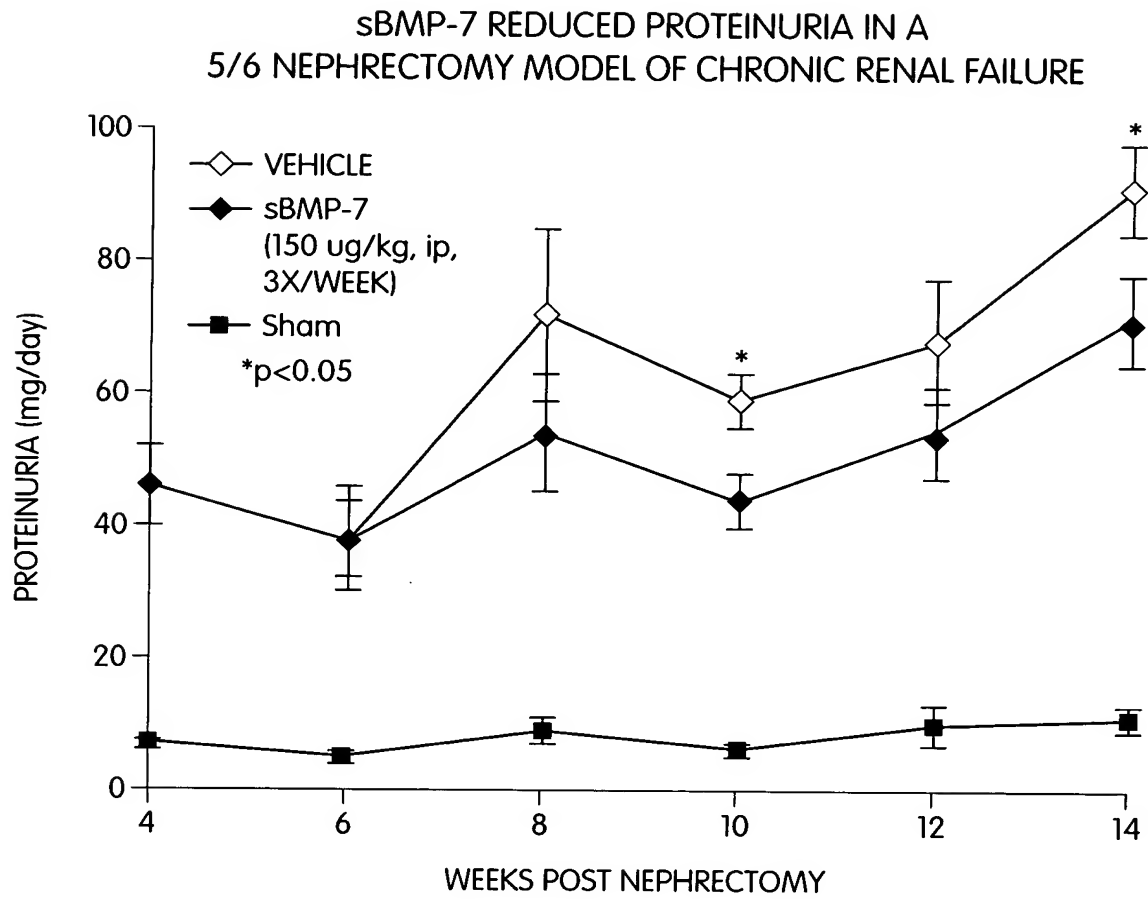


Fig. 13

**Fig. 14**

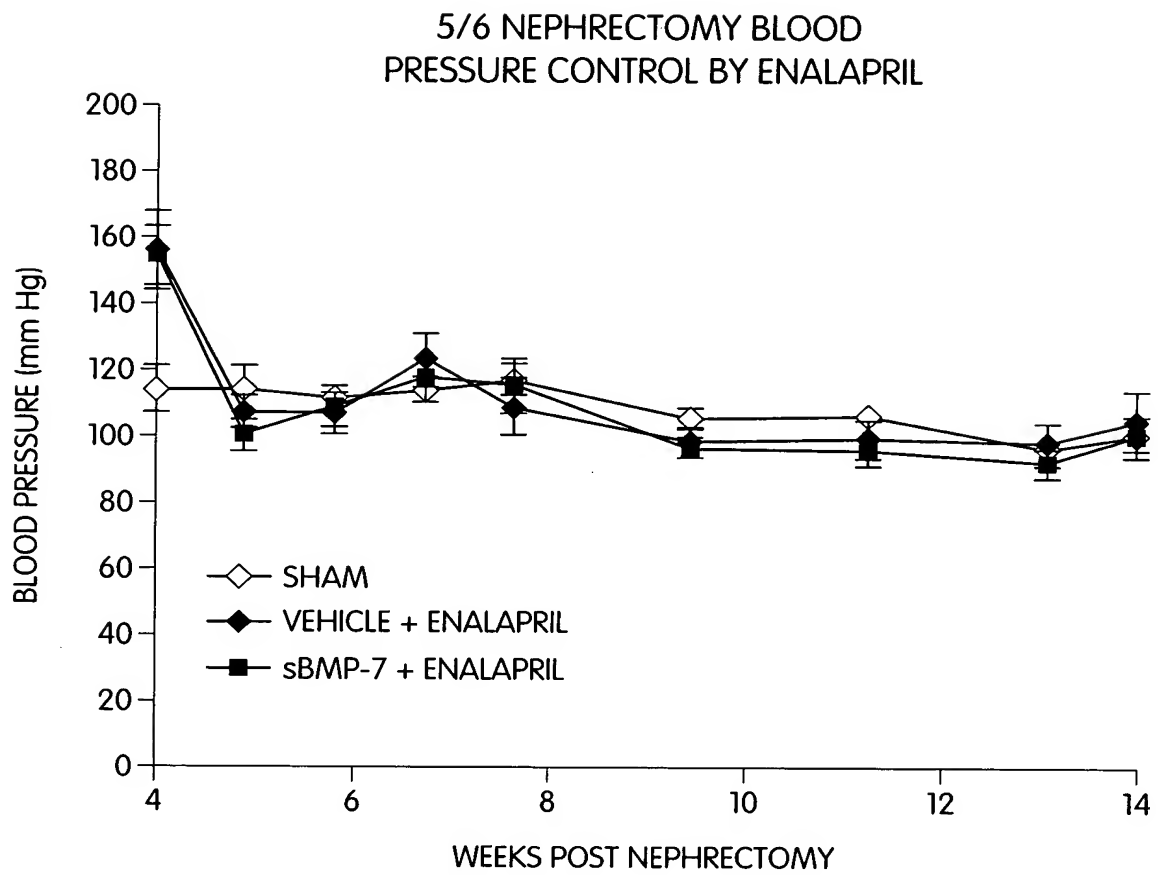
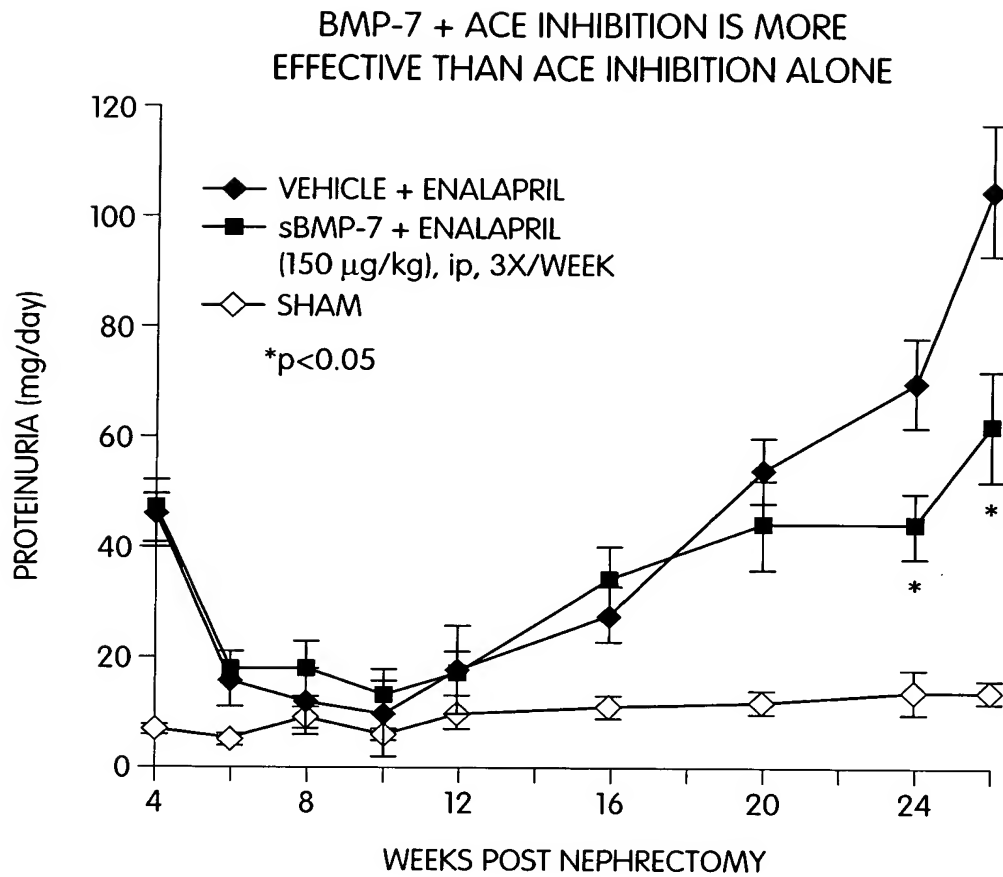
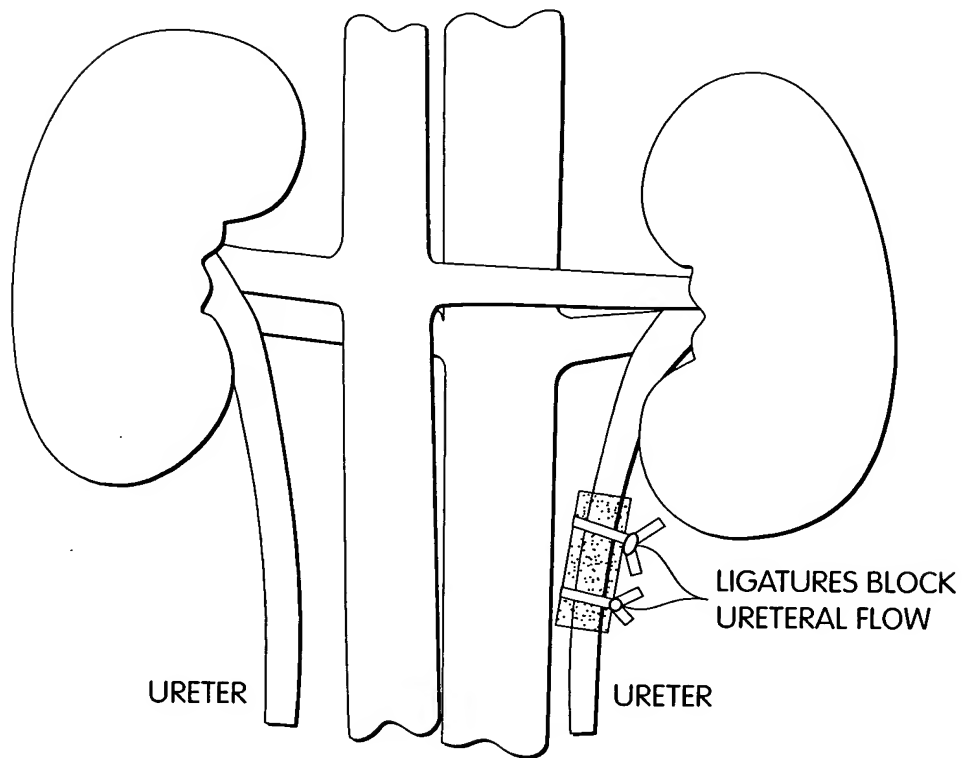


Fig. 15

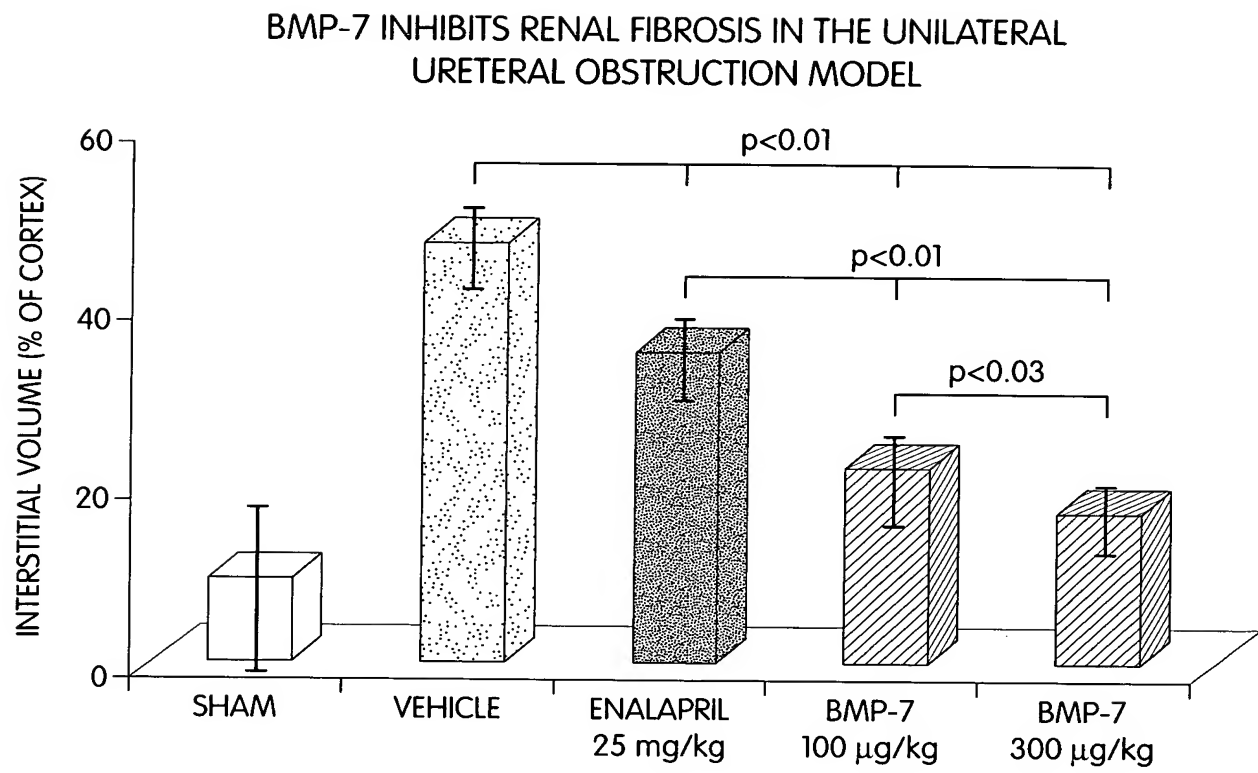
**Fig. 16**

UNILATERAL URETERAL OBSTRUCTION (UUO)
RENAL FIBROSIS MODEL



RAPID ONSET OF TUBULOINTERSTITIAL INFLAMMATION
AND FIBROSIS (HALLMARKS OF CRF)

Fig. 17

**Fig. 18**

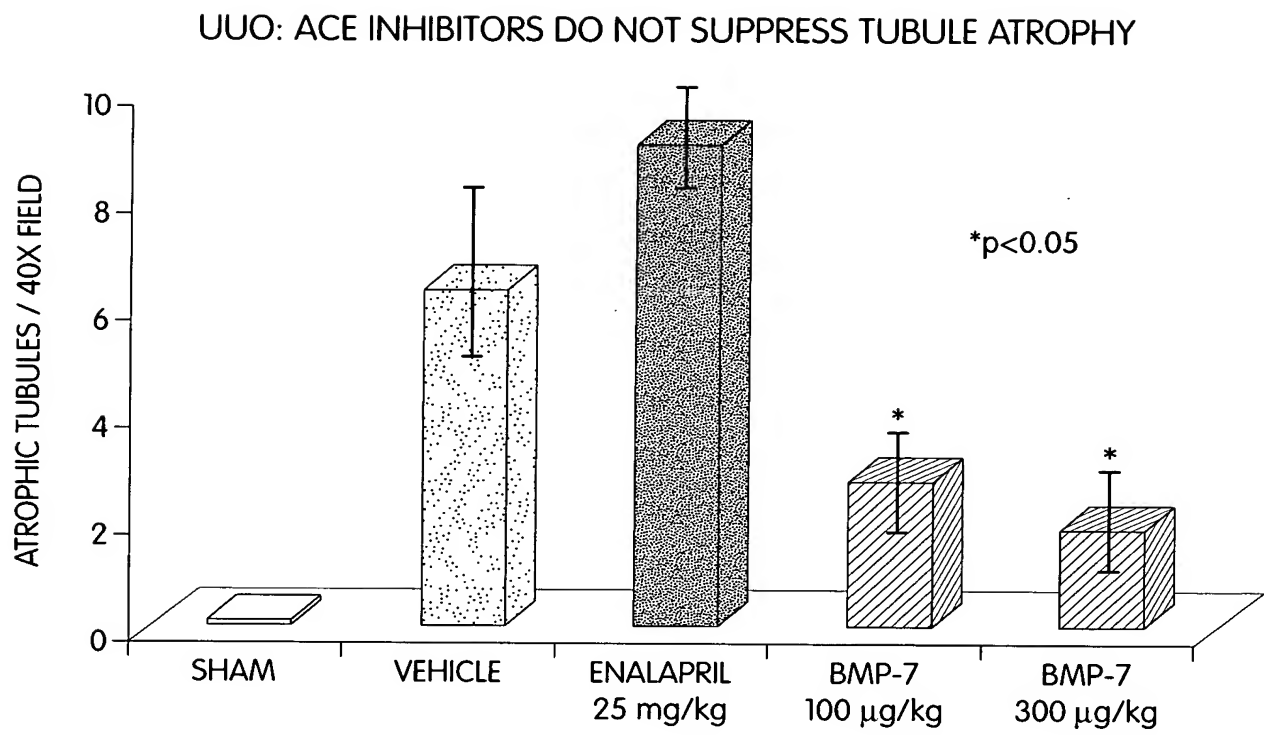


Fig. 19

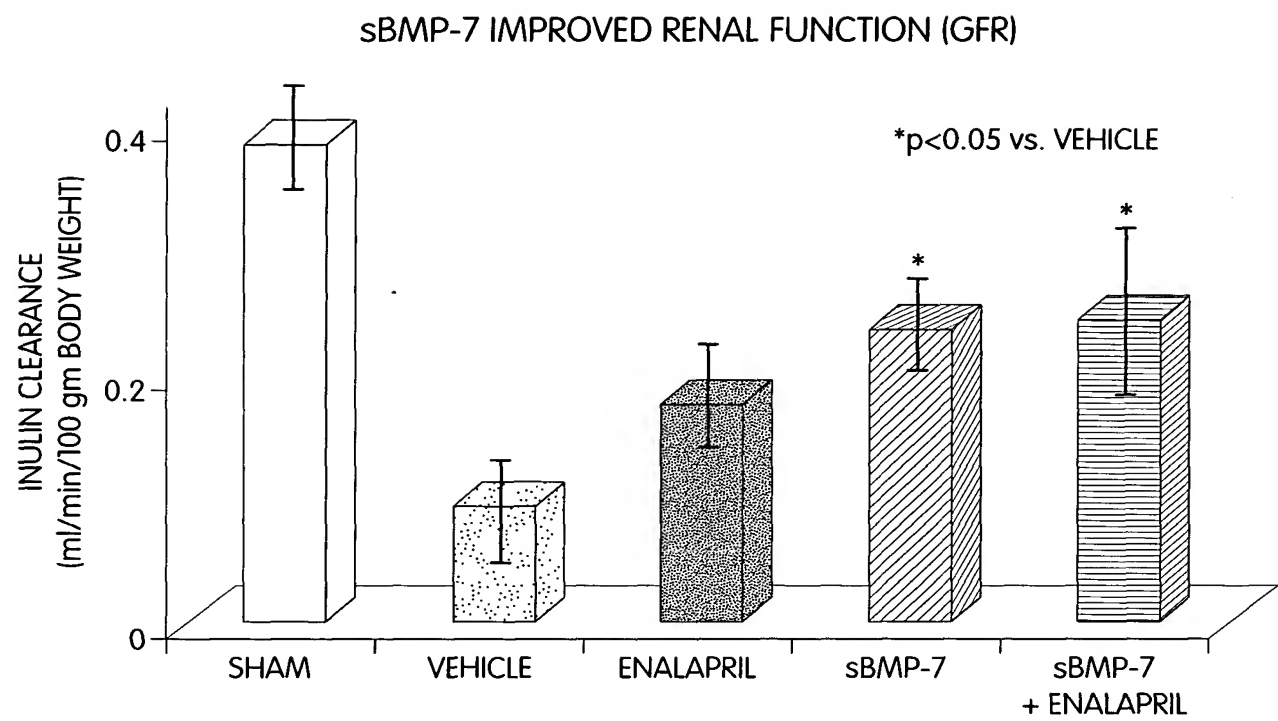


Fig. 20

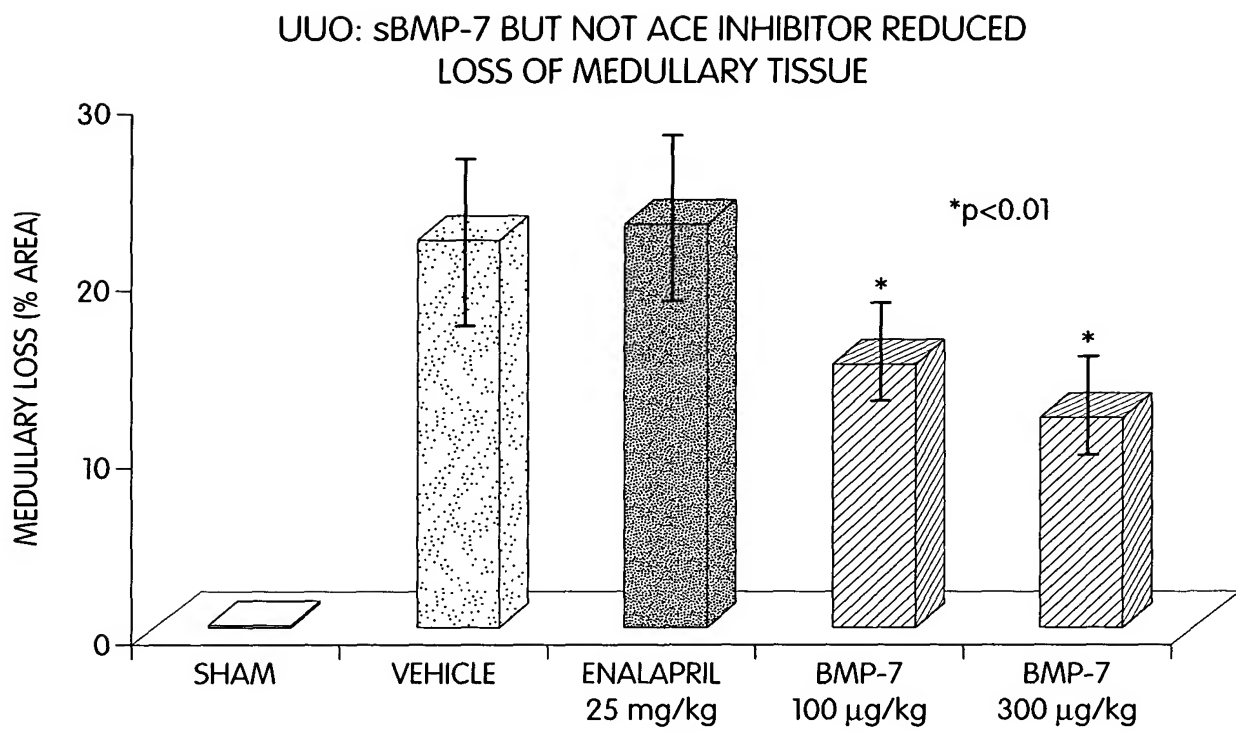
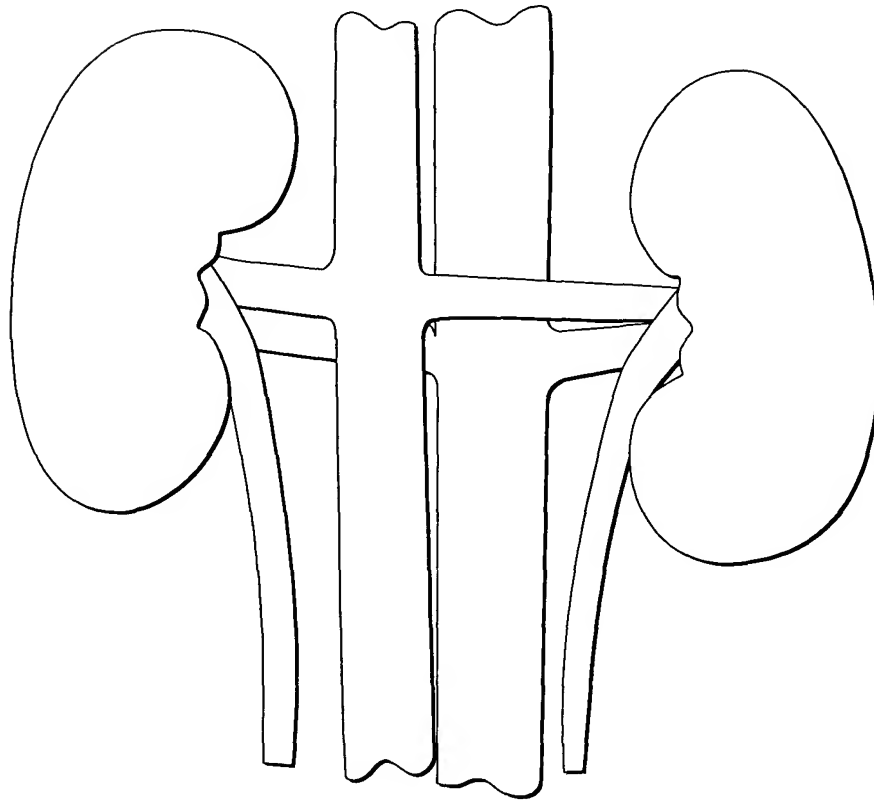


Fig. 21

STREPTOZOTOCIN-INDUCED RAT MODEL OF
DIABETIC NEPHROPATHY



- STREPTOZOTOCIN KILLS PANCREATIC β CELLS AND INDUCES TYPE I DIABETES
- MODEL OF PROGRESSIVE DIABETIC NEPHROPATHY

Fig. 22

BMP-7 IMPROVED GFR AT 32 WEEKS

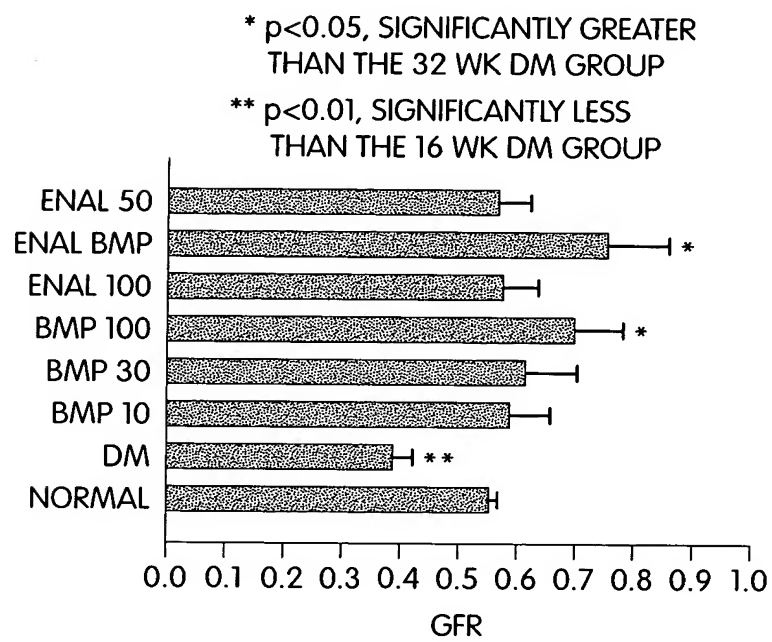


Fig. 23

BMP-7 REDUCED
PROTEINURIA TO NORMAL LEVELS

* $p < 0.05$, SIGNIFICANTLY GREATER
THAN THE 32 WK NORMAL GROUP

** $p < 0.01$, SIGNIFICANTLY GREATER
THAN THE 32 WK NORMAL GROUP

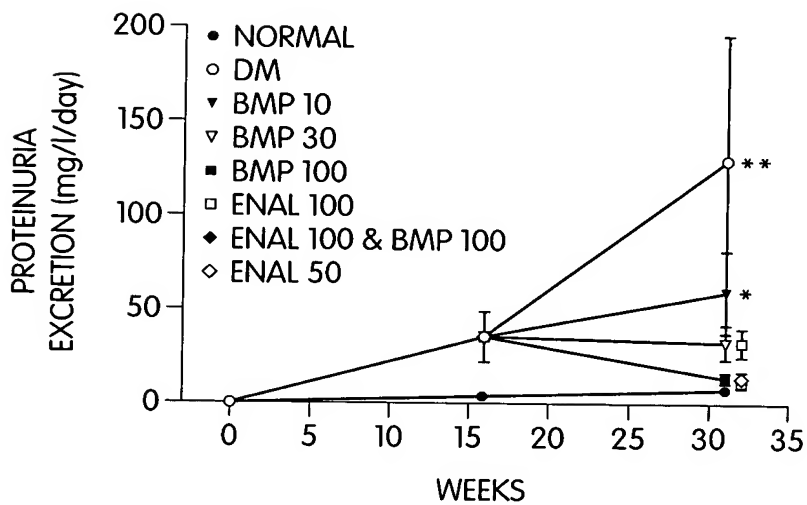
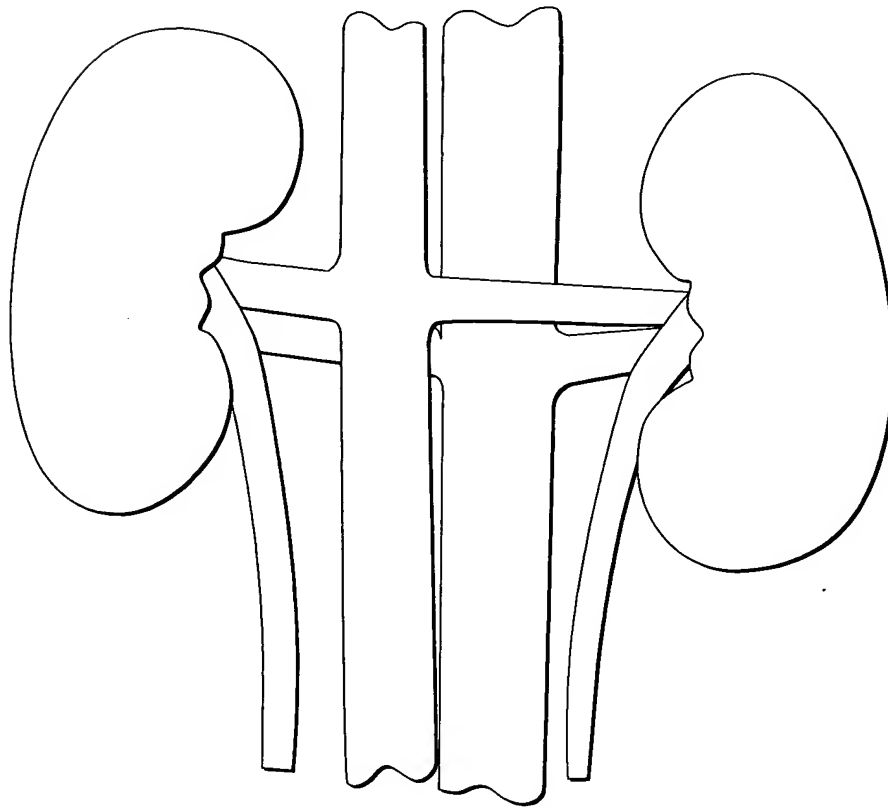


Fig. 24

ALLOXAN-INDUCED RAT MODEL
OF DIABETIC NEPHROPATHY



- ALLOXAN KILLS PANCREATIC β CELLS AND INDUCES TYPE I DIABETES
- MODEL OF PROGRESSIVE DIABETIC NEPHROPATHY

Fig. 25

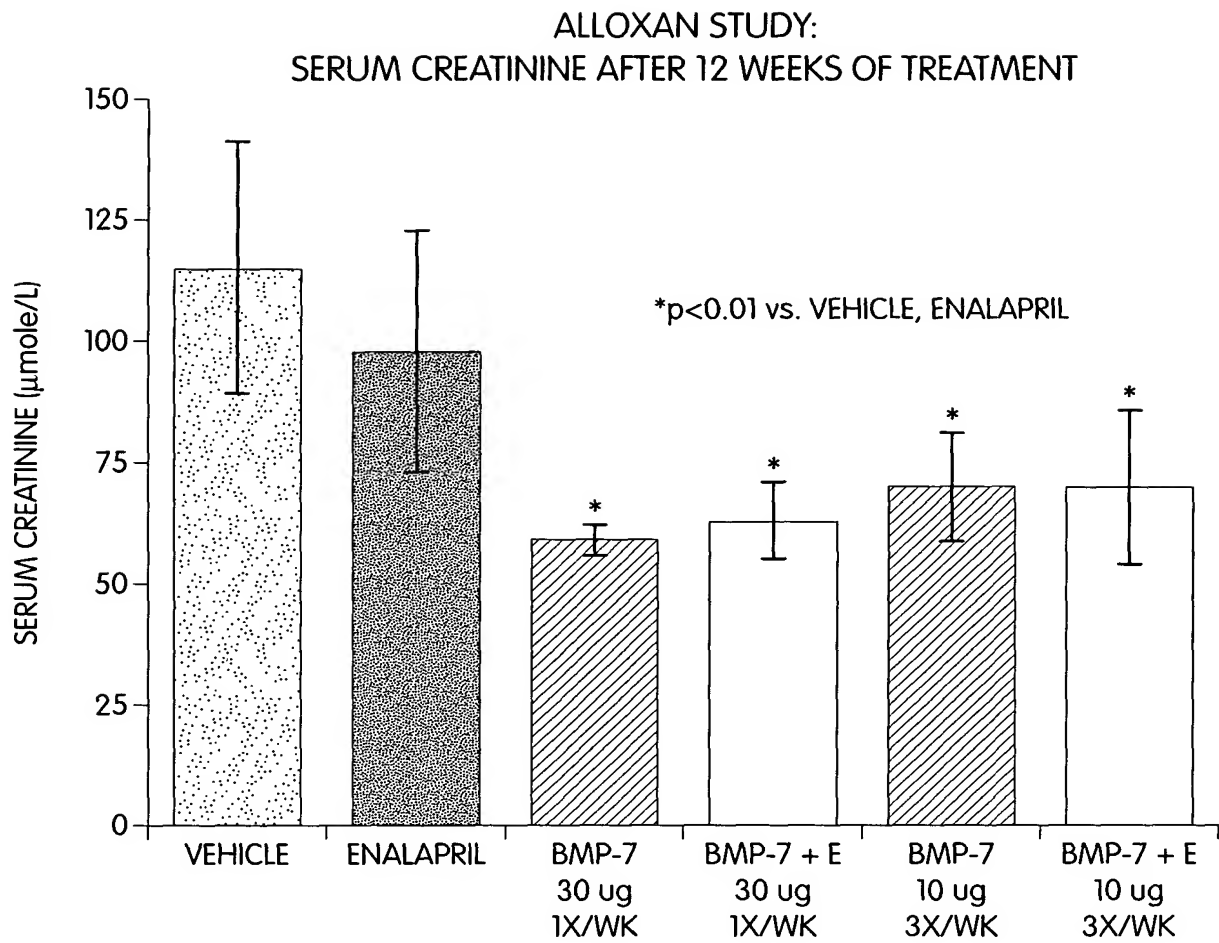


Fig. 26

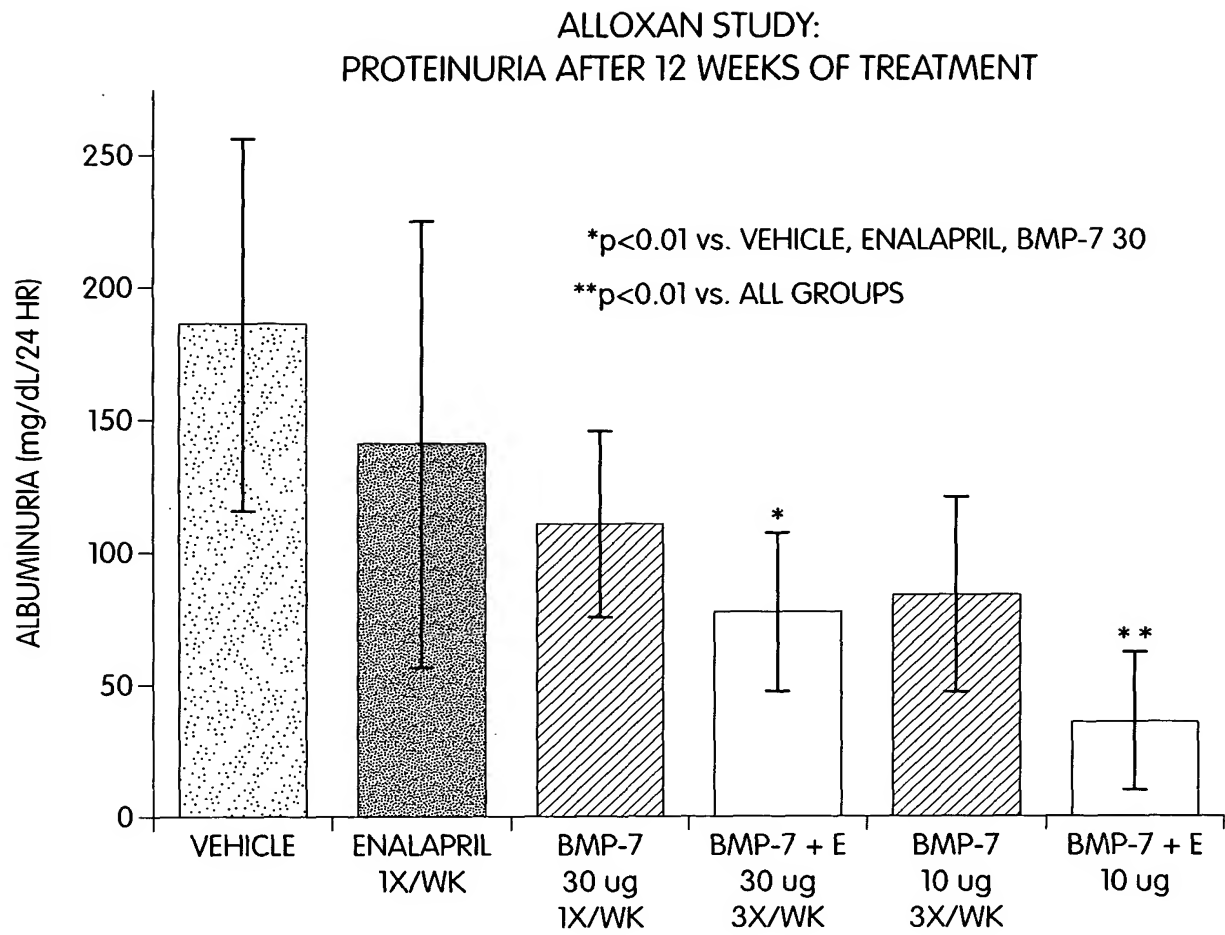


Fig. 27



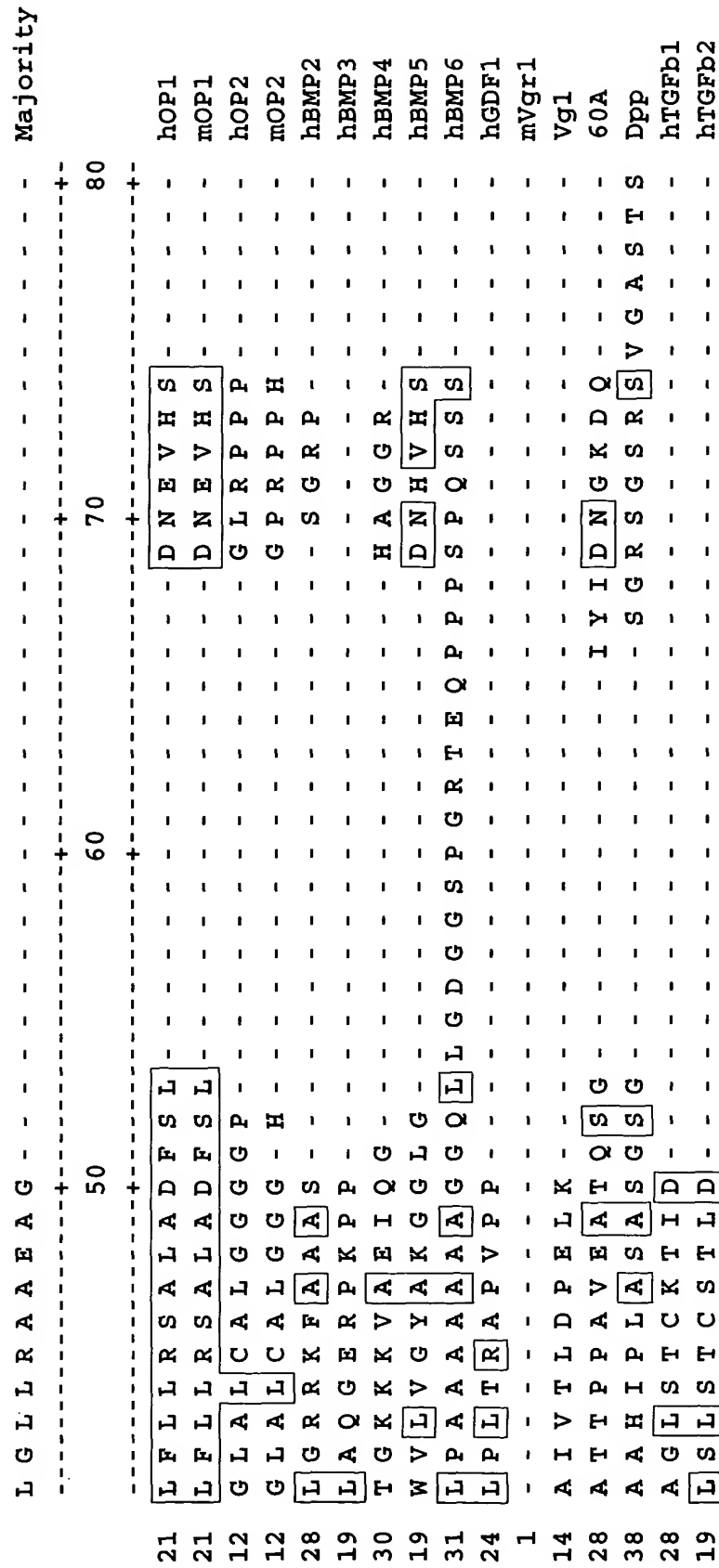


Fig. 28-3

Alignment Report of Fig1.meg ClustalW (Slow/Accurate, Gonnet)
Wednesday, August 28, 2002 9:33 AM

										Majority																															
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+																																									
				130	140	150	160																																		
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+																																									
40	-	-	-	-	-	-	-	-	-	hOP1																															
40	-	-	-	-	-	-	-	-	-	mOP1																															
30	-	-	-	-	-	-	-	-	-	hOP2																															
29	-	-	-	-	-	-	-	-	-	mOP2																															
42	-	-	-	-	-	-	-	-	-	hBMP2																															
29	-	-	-	-	-	-	-	-	-	hBMP3																															
46	-	-	-	-	-	-	-	-	-	hBMP4																															
37	-	-	-	-	-	-	-	-	-	hBMP5																															
65	-	-	-	-	-	-	-	-	-	hBMP6																															
34	-	-	-	-	-	-	-	-	-	hGDF1																															
1	-	-	-	-	-	-	-	-	-	mVgr1																															
24	-	-	-	-	-	-	-	-	-	Vg1																															
50	-	-	-	-	-	-	-	-	-	60A																															
105	N	E	V	H	K	P	R	T	D	Q	L	E	N	S	K	N	K	S	K	Q	L	V	N	K	P	N	H	N	K	M	A	V	K	E	Q	R	S	H	H	K	Dpp
38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	hTGfb1	
29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	hTGfb2	

Fig. 28-4

Fig. 28-5

	210	220	230	240	Majority
51	-	-	-	-	R
51	-	-	-	-	R
41	-	-	-	-	R
40	-	-	-	-	R
49	-	-	-	-	L
31	-	-	-	-	S
53	-	-	-	-	-
48	-	-	-	-	L
76	-	-	-	-	R
36	-	-	-	-	R
1	-	-	-	-	R
26	-	-	-	-	V
61	-	-	-	-	L
185	V	A	S	I	N
46	-	-	-	-	-
37	-	-	-	-	-

Fig. 28-6

Fig. 28-7

Fig. 28-8

Alignment Report of Fig1.meg ClustalW (Slow/Accurate, Gonnet)
 Wednesday, August 28, 2002 9:33 AM

	330	340	350	360	Majority
96	- - - - -	- - - - -	- - - - -	- - - - -	-
96	- - - - -	- - - - -	- - - - -	- - - - -	-
90	- - - - -	- - - - -	- - - - -	- - - - -	-
87	- - - - -	- - - - -	- - - - -	- - - - -	-
92	- - - - -	- - - - -	- - - - -	- - - - -	-
79	- - - - -	- - - - -	- - - - -	- - - - -	-
96	- - - - -	- - - - -	- - - - -	- - - - -	-
97	S E Y S V R A S L A E E T R G A - - - -	P G G Q G G F S - - - -	Y P Y K A V F S - - - -	- - - - -	hOP1
152	A S E G E R Q Q S W P H E A A S S S Q R R Q P P P G A A H P L N R K S L L A P G	P D G Q G F S - - - -	Y P Y K A V F S - - - -	- - - - -	mOP1
74	- - - - -	- - - - -	- - - - -	- - - - -	hOP2
78	A S E G V G Q E P G S H G G A S S S Q L R Q P S P G A A H S L N R K S L L A P G	E D G A P A E - - - -	- - - - -	- - - - -	hOP2
59	- - - - -	- - - - -	- - - - -	- - - - -	mOP2
109	- - - - -	- - - - -	- - - - -	- - - - -	hBMP2
266	- - - - -	- - - - -	- - - - -	- - - - -	hBMP3
91	- - - - -	- - - - -	- - - - -	- - - - -	hBMP4
85	- - - - -	- - - - -	- - - - -	- - - - -	hBMP5
	- - - - -	- - - - -	- - - - -	- - - - -	hBMP6
	- - - - -	- - - - -	- - - - -	- - - - -	hGDF1
	- - - - -	- - - - -	- - - - -	- - - - -	mVgr1
	- - - - -	- - - - -	- - - - -	- - - - -	Vg1
	- - - - -	- - - - -	- - - - -	- - - - -	60A
	- - - - -	- - - - -	- - - - -	- - - - -	Dpp
	- - - - -	- - - - -	- - - - -	- - - - -	hTGfb1
	- - - - -	- - - - -	- - - - -	- - - - -	hTGfb2

Fig. 28-9

Alignment Report of Fig1.meg ClustalW (Slow/Accurate, Gonnet)
 Wednesday, August 28, 2002 9:33 AM

	370	380	390	400	Majority
	- - - - -	- - - - -	- - - - -	- - - - -	V N L V
	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -
	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -
113	T Q G P P L A S L Q D S H F L T D A D M V M S	- - - - -	- - - - -	- - - - -	hOP1
112	T Q G P P L A S L Q D S H F L T D A D M V M S	- - - - -	- - - - -	- - - - -	mOP1
97	- - - - -	R R L G R A D L V M S	- - - - -	- - - - -	hOP2
94	- - - - -	A H L G R A D L V M S	- - - - -	- - - - -	mOP2
99	- - - - -	L E R A A S R A N T V R S	- - - - -	- - - - -	hBMP2
91	- - - - -	L R E G N T V R S F R A A A E T	- - - - -	- - - - -	hBMP3
106	- - - - -	Y P E R P A S R A N T V R S	- - - - -	- - - - -	hBMP4
133	T P L T Q S P P L A S L H D T N F L N D A D M V M S	- - - - -	- - - - -	- - - - -	hBMP5
192	S G S - G G A S P L T S A Q D S A F L N D A D M V M S	- - - - -	- - - - -	- - - - -	hBMP6
86	- - - - -	T L Q P C H V E E L G V A G N I V R H I P D R G A P T R	- - - - -	- - - - -	hGDF1
118	P G - - G G A S P L T S A Q D S A F L N D A D M V M S	- - - - -	- - - - -	- - - - -	mVgr1
69	- - - - -	D L C F V E E F N V P G S V I R V	- - - - -	- - - - -	Vg1
134	E G - - E Q Q K N F I T D L D K R A I D E S D I I M T	- - - - -	- - - - -	- - - - -	60A
273	- - - - -	P G L L T K S A N T V R S	- - - - -	- - - - -	Dpp
99	- - - - -	P E A D Y Y A K E V T R V L M	- - - - -	- - - - -	hTGfb1
94	- - - - -	S D E E Y Y A K E V Y K I D M P P	- - - - -	- - - - -	hTGfb2

Fig. 28-10



Fig. 28-11

Fig. 28-12

Alignment Report of Fig1.meg ClustalW (Slow/Accurate, Gonnet)
 Wednesday, August 28, 2002 9:33 AM

L Q E - - - - -										H S G R E S D L F L L										Majority									
-----+										-----+										-----+									
490										510										520									
198	L	Q	E	-	-	-	-	-	-	-	H	L	G	R	E	S	D	L	F	L	L								hOP1
197	L	Q	E	-	-	-	-	-	-	-	H	S	G	R	E	S	D	L	F	L	L								mOP1
169	V	Q	E	-	-	-	-	-	-	-	Q	S	N	R	E	S	D	L	F	F	L								hOP2
166	V	Q	E	-	-	-	-	-	-	-	H	S	N	R	E	S	D	L	F	F	L								mOP2
177	I	K	P	-	-	-	-	-	-	-	A	T	A	N	S	K	F	P	V	T	R	L							hBMP2
189	K	S	H	R	D	I	M	S	W	L	S	K	D	I	T	Q	F	L	R	K	A	K	E	N	E	E	F	L	hBMP3
184	M	K	P	P	-	-	-	-	-	-	A	E	V	V	P	G	H	L	I	T	R	L	L						hBMP4
222	I	K	E	-	-	-	-	-	-	-	Y	T	N	R	D	A	D	L	F	L	L	L							hBMP5
280	L	Q	E	-	-	-	-	-	-	-	H	Q	H	R	D	S	D	L	F	L	L	L							hBMP6
169	Q	A	G	-	-	-	-	-	-	-	Q	G	A	G	A	D	P	-	G	P	V	L							hGDF1
205	L	Q	E	-	-	-	-	-	-	-	H	Q	H	R	D	S	D	L	F	L	L	L							mVgr1
153	L	K	G	-	-	-	-	-	-	-	M	G	R	S	K	T	S	-	R	K	L	L	L						Vg1
222	G	T	G	-	-	-	-	-	-	-	T	L	G	Q	H	T	-	M	E	P	L	L							60A
354	T	R	V	-	-	-	-	-	-	-	G	V	R	G	Q	R	E	P	S	Y	L	L	L						Dpp
174	Y	S	N	-	-	-	-	-	-	-	N	-	-	-	-	-	-	S	W	R	Y	L	L						hTGfb1
172	L	K	S	-	-	-	-	-	-	-	K	D	L	T	S	P	T	Q	R	Y	I								hTGfb2

Fig. 28-13



Fig. 28-15

Alignment Report of Fig1.meg ClustalW (Slow/Accurate, Gonnet)
 Wednesday, August 28, 2002 9:33 AM

M V A F F K A S E V - - - H L R T T R S A S S - - K R R Q Q S R N K R R P Majority																																								
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----																																								
610										630																														
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----																																								
620										640																														
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----																																								
277	M	V	A	F	F	K	A	T	E	V	-	-	-	-	-	-	-	-	-	K	Q	R	S	Q	N	R	S	K	T	P	K	hOP1								
276	M	V	A	F	F	K	A	T	E	V	-	-	-	-	-	-	-	-	-	-	K	Q	R	S	Q	N	R	S	K	T	P	K	mOP1							
248	V	V	T	F	F	R	A	S	P	S	-	-	-	-	-	-	-	-	-	-	L	R	R	Q	P	K	K	S	N	E	L	hOP2								
245	M	V	T	F	F	R	A	S	Q	S	-	-	-	-	-	-	-	-	-	-	-	L	K	R	Q	P	K	K	T	N	E	L	mOP2							
264	L	V	T	F	G	H	D	G	K	G	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	E	K	R	Q	A	hBMP2							
303	P	G	A	E	Y	Q	Y	K	K	D	E	V	W	E	E	R	K	P	Y	K	T	L	Q	A	Q	A	P	E	K	S	K	N	K	K	Q	R	K	G	P	hBMP3
272	L	V	T	F	G	H	D	G	R	G	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	hBMP4			
301	M	V	A	F	F	K	A	S	E	V	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	hBMP5			
359	M	V	A	F	F	K	V	S	E	V	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	hBMP6			
232	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	hGDF1			
284	M	V	A	F	F	K	V	S	E	V	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	mVgr1			
222	Q	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Vg1			
302	M	I	G	F	F	R	G	P	E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60A			
441	L	F	T	Y	T	D	D	G	R	H	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Dpp			
249	T	I	H	G	M	N	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	hTGfb1			
266	T	I	K	S	T	R	K	K	N	S	G	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	hTGfb2			

Fig. 28-16

	R	Q	D	S	-	-	L	R	M	S	S	V	S	D	-	-	S	-	-	A	C	K	K	H	E	L	Y	V	S	F	R	-	D	Majority
	-----+																																	

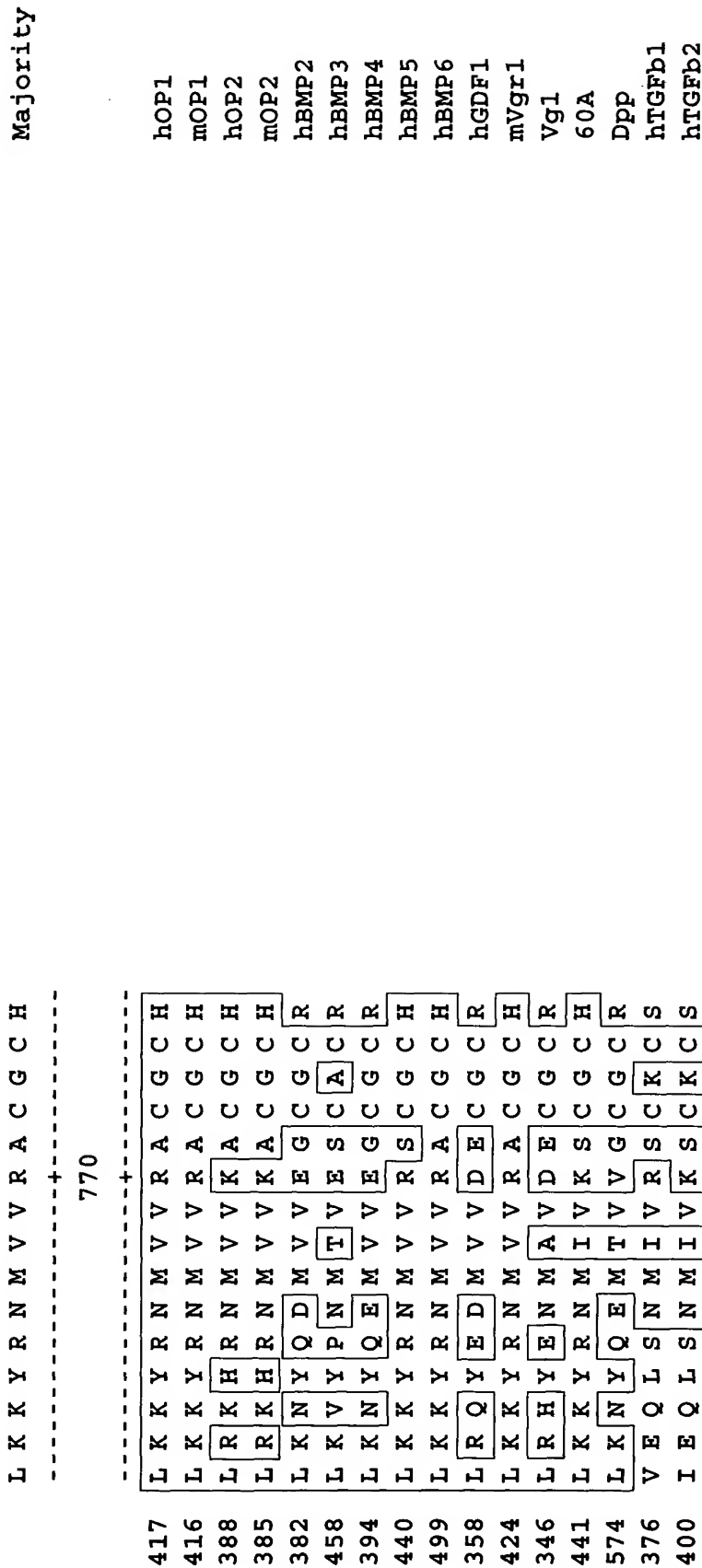
Fig. 28-17



Fig. 28-18



Alignment Report of Fig1.meg ClustalW (Slow/Accurate, Gonnet)
Wednesday, August 28, 2002 9:33 AM



Decoration 'Identity to human OP-1' " Box residues that match hOP1 exactly.

Fig. 28-20